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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/725,309	11/29/2000	Alok Singh	79,212	8594
7590 12/19/2003		EXAMINER		
Associate Counsel (Patents), Code 1008.2		HUTSON, RICHARD G		
Naval Research Laboratory		ART UNIT		
Washington, DC 20375-5000		PAPER NUMBER		

1652

DATE MAILED: 12/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/725,309	Applicant(s) SINGH ET AL.	
	Examiner Richard G Hutson	Art Unit 1652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3,4,7-15,21 and 23-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 3,4,7,8,15,24,25 is/are allowed.
- 6) ☒ Claim(s) 9-14,21,23 and 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicants cancellation of claims 6 and 22, amendment of claims 3 and 9, and the addition of new claims 25 and 26, Paper of 9/23/2003, has been entered and is acknowledged.

Claims 3, 4, 7-15 and 21, 23-26 are still at issue and are present for examination.

Applicants' arguments filed on 9/23/2003 have been fully considered and are deemed to be persuasive to overcome some of the rejections previously applied. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 9-12, 14, 21, 23 and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Xiao et al.(U.S. Patent No. 6,593,099 B2).

Xiao et al. teach the recombinant expression of human S-acyl Fatty Acid Synthase Thioesterase-like enzyme as a part of a fusion polypeptide which contains a six histidine reporter tag (See example 2) and the isolation of said recombinant thioesterase fusion from culture by affinity chromatography (NiNTA Resin). While it is admitted that Xiao et al. do not disclose that the taught method is done as a means of stabilizing the taught thioesterase, the taught method comprises each of the steps of the anticipated claims and the effect of these steps (i.e. enzyme stabilization) is an inherent property of the taught method. Thus claims 9-12, 14, 21, 23 and 26 are anticipated by Xiao et al.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xiao et al.(U.S. Patent No. 6,593,099 B2) and Lu et al. (Journal of Biological Chemistry, Vol 271, No. 9, pages 5059-5065, March 1996).

As discussed above, Xiao et al. teach the recombinant expression of human S-acyl Fatty Acid Synthase Thioesterase-like enzyme as a part of a fusion polypeptide which contains a six histidine reporter tag (See example 2) and the isolation of said recombinant thioesterase fusion from culture by affinity chromatography (NiNTA Resin).

Lu et al. teaches similar methods, as those taught by , Xiao et al., of protein purification of *E. coli* thioredoxins, with the following exceptions. Lu et al. rather than add a 6X His sequence to the amino or carboxyl terminus of the protein, mutate selective surface exposed residues to histidine and in addition to nickel-nitrilotriacetic acid (NTA) salts, Lu et al. use copper- and nickel-iminodiacetic acid (IDA) salts. Lu et al. teach that both the IDA and NTA salts resulted in identical protein affinity results (page 5061, top of column 2).

One of ordinary skill in the art at the time of filing would have been motivated to use either nickel-nitrilotriacetic acid (NTA) salts as used by Xiao et al. and Lu et al. or nickel-iminodiacetic acid (IDA) salt as used by Lu et al. to isolate the thioesterase fusion produced by Xiao et al. because Lu et al. teach that both the IDA and NTA salts resulted in identical protein affinity results. The reasonable expectation of success comes from the high degree of knowledge in the field as demonstrated by the results of Xiao et al. and Lu et al., who successfully genetically engineered and isolated a number of different enzymes to contain a poly-histidine tail. Thus claim 13 is made obvious by Xiao et al. and Lu et al.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard G Hutson whose telephone number is (703) 308-0066. The examiner can normally be reached on 7:30 am to 4:00 pm, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapu Achutamurthy can be reached on (703) 308-3804. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3014.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.



Richard G Hutson, Ph.D.
Primary Examiner
Art Unit 1652

rg
12/8/2003